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ABSTRACT

This preliminary report provides an overview of the Applying Research to Teacher Education (ARTE) Research Utilization in Elementary Teacher Education (RUETE) study which began in 1982 and will continue through 1985. ARTE: RUETE explores specific processes for incorporating recent research findings of effective instruction into preservice curriculum content in preparation for and during student teaching. This paper is organized to provide an overview of the purpose, rationale, and methodology of the study as well as a brief summary of one of the major activities, developing research/intervention plans at three study sites. Six factors that may explain how the process of applying effective teaching research to teacher education programs begins, what stages it passes through, and where it ends up are presented. (JMK)

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FAR WEST LABORATORY
FOR EDUCATIONAL RESEARCH AND DEVELOPMENT

APPLYING EFFECTIVE INSTRUCTION RESEARCH FINDINGS IN TEACHER EDUCATION: SIX INFLUENCING FACTORS

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Introduction

This preliminary report provides an overview of the Applying Research to Teacher Education (ARTE) Research Utilization in Elementary Teacher Education (RUETE) study which began in 1982 and continues through 1985. The study explores specific processes for incorporating recent research findings of effective instruction into preservice curriculum content in preparation for and during student teaching. This paper is organized to provide an overview of the purpose, rationale, and methodology of the study as well as a brief summary of one of the major activities, developing research/intervention plans at three study sites. The paper concludes by presenting six factors which may explain how the process of the application of research on effective teaching to the teacher education programs of institutions of higher education begins, what stages it passes through and where it ends up.

Background

There is a well documented concern in the literature that current, useful research findings on effective instruction are underutilized in teacher training institutions as well as in inservice instruction. Thus, the ability of the classroom teacher to improve instructional methods is seriously compromised. The explanations for this lack of utilization of research to improve teaching practices are complex and beyond the scope of this paper. However, one key theme is the lack of

involvement of teachers in the research process, which serves as a primary reason for the underutilization of useful research findings. The distance between the educational researcher and the professional teacher creates a lack of mutual understanding of research based findings. This is, in part, based on the absence of a common language or structure for exchange in which common concerns can be shared. The resulting lack of confidence in research and commitment to inquiry on the part of the professional teacher is a negative influence on implementing suggestions from the current research that do come their way. Therefore, the extent to which there is a systematic format or structure for the educational researcher to gain knowledge about the practical concerns and issues of professional teachers is one issue. A related issue is the assistance the professional teacher receives in gaining a thorough understanding about current research. Addressing these two issues may enable the professional teacher and the educational researcher to regard education research as a mutually profitable direction for understanding and addressing instructional problems. It was a critical aspect of the methodology of this study to include the process of collaboration among role groups. Factors influencing the process of collaboration are reported elsewhere (Hering & Gee, 1984).

Methodology

The ARTE: RUETE study includes two major phases: Phase I was designed to establish a regional teacher education team.

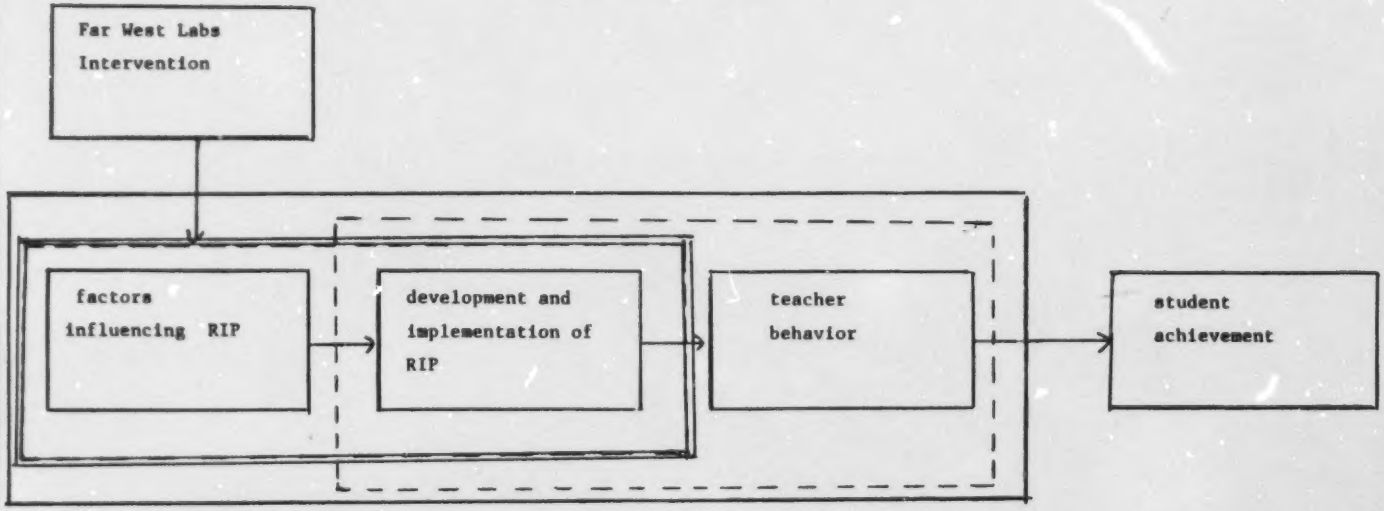
This team reviewed and selected research findings from the literature on effective instruction, developed research/intervention plans to apply the selected effective instruction research findings in their own preservice teacher education program, and inititated teacher education academies. Phase II is concentrating on the development of the teacher academies as well as synthesizing and analyzing the research/intervention plans implemented during Phase I.

This research effort is occurring through a process of collaborative inquiry, using the Interactive Research and Development on Teaching (IR&DT) model developed at FWLERD. Figure 1. provides the entire framework for the ARTE:RUETE project. It begins with the decision of FWLERD to develop and carry out the research study. The next stage was the development and implementation of research/intervention (r/i) plans. Finally, it illustrates the stages of impact on teacher behaviors and on student outcomes. Although the entire framework is not presented in this paper, it is important to conceptualize each stage and begin to describe the interactions among them.

[Insert Figure 1 about here]

During Phase I the study selected and convened a regional teacher education team consisting of experienced teacher educators from three teacher education programs: The University of Utah, the University of Nevada, Reno, and Mills College, Oakland, California. This team collaboratively reviewed the research findings about effective instruction and selected topics for further study at their individual sites. Team members

FIGURE 1: Framework of the ARTE: RUETE Research Study



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then returned to their sites and developed a situational analysis (Driscoll & Gee, 1983; Johns & Gee, 1983; Ponzio & Gee, 1983). The situational analysis provided baseline information about the current knowledge and use of research findings on effective instruction in the respective preservice programs as well as extensive information about the cooperating school district and the community. This descriptive account of the individual site was developed in accordance with criteria provided by FWLERD.

Then, the regional teacher education team collaboratively identified areas for exploration and research/intervention. The nature of the areas were: exploring the value of effective instruction research, the relationship between research and practice, points of appropriate influence, and defining preservice and inservice teacher education roles. The team collaboratively refined observational data collection instruments for use in their respective research/intervention (r/i) plans. Throughout, FWLERD remained a constant resource element by providing support and assistance.

The development and implementation of the r/i plan is one of the two key stages under study. Two central research question here are, what variables are associated with various strategies for applying research to teacher education programs and, how do these factors interact to influence such strategies. This stage is outlined with a double line in Figure 1. The r/i plans are influenced by various independent variables. These influencing factors and suggestions about their interaction are presented in the final section of this paper, below.

The second key stage relevant to this study is the effect of various strategies for applying research to teacher education programs on the behavior of teachers in the classroom. This stage is outlined with a dotted line in Figure 1. The questions and findings are reported in detail by each of the study sites (Driscoll, 1984; Johns and Gee, 1984; Ponzio, 1984) and are briefly summarized below.

The ultimate purpose of the research process is to affect learning in the classroom. Although this study does not emphasize this stage it is valuable to keep in mind what we understand to be a final stage in the research process. It is suggested and expected that for further research pre and post-testing of the students would be included in the data collection.

Research/intervention plans. The thrust of the research/intervention (r/i) plans designed by each regional research fellow was conceptualized collaboratively. The regional teacher education team collaboratively defined effective instruction, studied effective instruction topics relevant to their respective sites, and collaboratively refined observational data collection instruments for observing active teaching behaviors (Good, Grouws, & Ebmeier, 1983). As can be expected, in spite of their common definition and instrumentation, the r/i plans vary due to contextual parameters. Each of the three r/i plans are briefly summarized: Utah, Nevada, and California.

The Utah r/i plan involved student teachers, cooperating teachers, and teacher education faculty in a series of

collaborative sessions to gain information and to plan and engage in the inquiry process of trained observation and feedback. The r/i plan investigated the impact of student teacher participation in the collaborative development of preservice training that implements effective instruction research. The study examined student teachers who, with their cooperating teachers, were engaged in the collaborative preservice training sessions as well as those who were engaged without their cooperating teachers. The plan also investigated the impact on cooperating teachers and teacher education faculty. To introduce and engage in reviewing the effective instruction research findings, the initial collaborative session included student teachers, cooperating teachers, and teacher education faculty. These same people were involved in planning and conducting a collaborative session for other cooperating teachers, student teachers, and teacher education faculty.

Preliminary analysis of the impact of collaboration indicates student teacher interactions, perceptions, and valuing of all participants is most salient. Comparisons among student teachers indicate significant differences ($X^2 = 29.2$ (6) $p < .0001$) in two categories of active teaching behaviors, introduction and closure of lessons. Trends in other categories of active teaching behaviors, such as instruction and management behaviors, are difficult to interpret (Driscoll, 1984, p. 26).

The California r/i plan investigated the impact of training student teachers and their cooperating teachers to conduct observations and to engage in feedback about effective

instruction. Student teachers and cooperating teachers were introduced to and trained to use two observation instruments: the active teaching behavior observation instrument developed by the regional teacher education team members of this study and an adaptation of the academic learning time (Fisher, et al., 1980) research instrument. Student teachers, their respective cooperating teachers, and the teacher education faculty supervisors focused their interaction around the concepts underlying these instruments. The impact on their instructional behaviors and their supervision strategies were explored.

Preliminary analysis indicates considerable interest "...with the notion of trying to achieve some sense of parity....the master teacher/student teacher focus." "I think the project went a long way in achieving parity between master teacher and student teacher. Much more than I've seen in any other kind of practice teaching...." However, "...despite the very best of intentions, the parity between the researchers and the master teachers was not achieved" (interview protocol 03-RA-02). Generally, student teachers appear to have acquired higher expectations of themselves and of supervision. Preliminary indications are that these strategies should become a part of ongoing staff development efforts.

The Nevada r/i plan investigated the impact of introducing a research observation instrument to cooperating teachers who demonstrated varying frequencies of active teaching behaviors during math instruction. Prior to receiving the active teaching behaviors observations form, cooperating teachers were observed

and ranked according to the frequency (most and least) of active teaching behaviors they demonstrated. Teachers were invited to use the form with their student teachers after these baseline observations had been made.

In general, the use of the active teaching behavior observation instrument tended to increase the frequency of categorical introductory behaviors for teachers. Preliminary analyses suggest that the use of an observation instrument of active teaching behaviors increases the frequency of those behaviors. Of interest is that "...failure to use the instrument coupled with a teacher who displays minimal levels of active teaching behaviors may impede student teacher growth and may, in fact, cause a reversal of desireable entry-level behaviors" (Johns & Gee, 1984, p. 14).

Factors Influencing R/i Plans

The central concern of this paper is the application of research on effective teaching strategies to elementary teacher education programs. The key question in our study is how research can be applied effectively to teacher education programs. More specifically, the process under study is how teacher education faculty interjected research findings on effective instruction into their curricula. Six influencing factors are identified here. The factors common to the three teacher education program, their elements, and the interaction among them are schematically represented in Figure 2.

[Insert Figure 2 about here]

FIGURE 2: Interaction of Factors Influencing R/I Plans

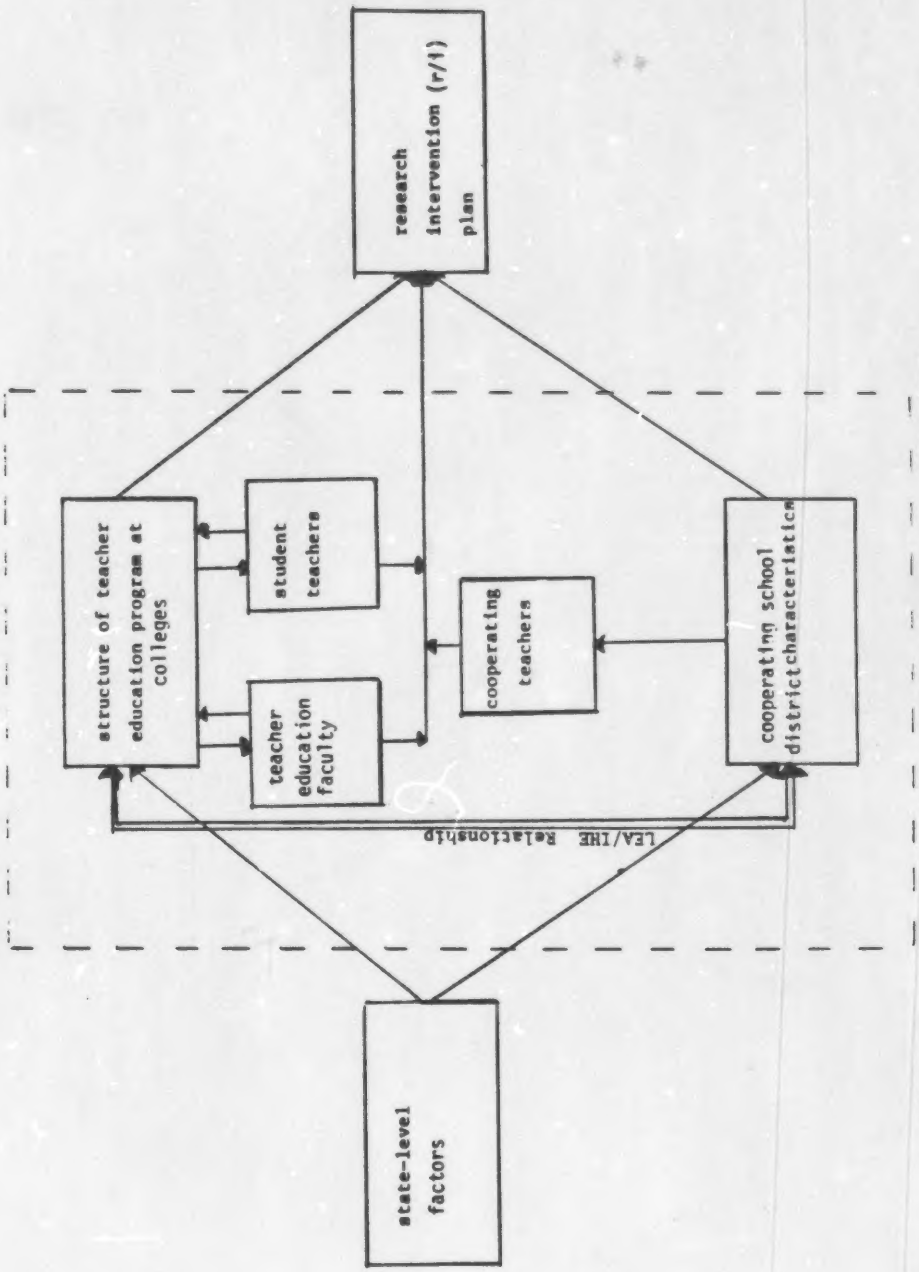

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Figure 2: Interaction of Factors Influencing Research/intervention Plans, shows the interaction among the different influencing factors. The two main factors are the structure of the teacher education program and the characteristics of the cooperating school district. Of particular interest is the previous relationship between these two entities. For example, one element is how they collaborate on the placement of student teachers with cooperating teachers. This relationship is portrayed by the double line between the two factors.

The structure of the cooperating school district and of the teacher education program affects the development of the r/i plan directly. At the same time, the teacher education program and the cooperating school district affect the individual role groups: student teachers, cooperating teachers, and teacher education faculty.

In addition, the teacher education faculty, as members responsible for the teacher education program, directly affect the teacher education program. Finally, and somewhat external to the central process by which r/i plans are developed and implemented, are the state level requirements. These affect both the teacher education program and the cooperating school district through policies and regulations. A brief description of the elements of each of the six influencing factors will conclude this paper.

Structure of the teacher education program. Common structural elements comprise this influencing factor. First, the process by which the teacher education program collaborates with the local cooperating school district may be the most important. The structure of all the r/i plans depended to some extent on the teacher education programs' previous process of cooperation with the school district and the cooperating teachers. For example, a participative planning and control system generally was in place. However, the extent to which such a system was used or changed varied across sites.

Second, the potential for flexibility and latitude in the teacher education program to interject research findings was important. In some of the programs there existed, prior to the r/i, a structured event such as a retreat or series of meetings which served as an appropriate place for the discussion of a research study such as ARTE: RUETE. In another program, time and other responsibilities limited participation in the research study.

Third, the tradition of using research and evaluation in the program was a patterned and integral element in the teacher education programs. This took the form of introducing basic research and evaluation techniques such as pre-and post-testing, innovation and inquiry based learning approaches in classes. It also took the form of special interests and resources such as learning laboratories, curriculum libraries, and external project funding.

Finally, elements such as the size of the teacher education

program and the faculty appeared to have considerable impact on the process of applying research in teacher education. The extent and quality of the r/i impact varied according to the size of the program and number of faculty involved.

Characteristics of the school district. This factor is similar to the preceeding one, with particular regard to the element of collaboration between the college and the cooperating school district. The structure of all the r/i plans depended to a great extent on this previous relationship. The relationship varied from institutionalized procedures for the placement of student teachers with cooperating teachers in regularly designated schools to informal and individualized procedures for the placement of student teachers.

A second important element is the extent of and commitment to inservice training for teachers. This element ranged from little or no formal inservice training on the part of the school district to a formalized and institutionalized program at the district level for all classroom teachers with special attention to inexperienced teachers.

Finally, an element of this variable is, again, the traditional use of research within the school district. Included is the factor of educational philosophy, both explicit and implicit.

Teacher education faculty (Fellows). The type and quality of the r/i plan at the three sites was clearly affected by the specific Fellow at that site. A number of sub-variables emerge. First, experience in using and conducting research both within

and outside of the teacher education program varied according to the type of research used and conducted prior to this study. For example, it appears as though this element ranged from some systematic investigation of curricula to systematic reflection on teaching methodology, supervision, and practicums. These, paired with experience in innovation in general, varied in degree and rigor.

Another important element refers to the relevance of the work in the ARTE: RUETE project to the Fellow's personal professional development and advancement. The degree of interest and commitment appears to relate to tenure, promotion, and retention. For example association with a research study from a nationally funded source, possibilities for publications and presentations, and the assumption of a leadership role within the teacher education program were interests of each Fellow. However, the level of interest varied according to the length of tenure. For example, tenure ranged from the relatively recent (4 years) to somewhat extended (14 years) tenure and included a variety of administrative responsibilities.

Finally, there is the element of other teacher education faculty's perceived status of the Fellow's both within the teacher education program and the cooperating school district. The variation of perceptions among individual sites ranged from the charismatic to awed respect with different role groups.

Student teachers. The characteristics of the individuals in the clinical experience have been documented (Griffin, 1981) as a relevant variable in understanding a teacher education program. Recruitment and matriculation at the variety of sites (private

and public) seems to be have had impact on the r/i plans. The philosophies and capabilities of the individuals appear to be important in understanding how r/i plans were implemented as well as in understanding the results. Factors such as educational philosophy, previous experience, age, and abilities relate to the reception and subsequent implementation of r/i plans.

Cooperating teachers. Again, consideration of the characteristics of the individuals is a relevant variable. This element is, of course, dependent on factors similar to those of the student teachers. For example, educational philosophy, years of teaching experience, amount of formal education and inservice training, experience with research and innovation, as well as other special interests affected the implementation of the r/i plans.

State requirements. The sample of three sites falls within three different states, suggesting differences in state education policy on the development and implementation of research programs. More specifically, the previous experiences and support toward research and innovation is of import.

Finally, credential requirements of each of these states required that certain courses, hours, and clinical experiences be part of the teacher education programs. The impact of these requirements to applying research to teacher education are important.

Summary

The Applying Effective Instruction Research to Teacher Education research effort convened teacher education faculty to

develop research/intervention (r/i) plans for implementation in three different teacher education programs. The r/i plans incorporated effective instruction research findings in preparation for and during student teaching experiences. A brief summary of the three r/i plans and preliminary analyses was provided.

This preliminary report identifies six factors which may explain how the process of the application of research on effective instruction begins, how it evolves, and the extent to which it may be useful. Three case studies and a cross-site analysis are in progress.

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